L 21008-65

ASSOCIATION: none

NO REF SOV: 003 OTHER: 000 JPRS

Card 2/2

L 05882-67 EWP(k)/EWP(h)/EWT(d)/EWT(l)/EWP(v)EWP(l) GD

ACC NR: AT6020424 (N) SOURCE CODE: UR/0000/65/000/000/0050/0055

AUTHOR: Barabanov, V. A.

ORG: Institute of Electrodynamics AN UkrSSR (Institut elektrodinamiki AN UkrSSR)

TITLE: Theoretical determination of the inductive parameters of a three-dimensional electric machine

SOURCE: AN UkrSSR. Preobrazovaniye i stabilizatsiya elektromagnitnykh protsessov (Conversion and stabilization of electromagnetic processes). Kiev, Naukova dumka, 1965, 50-55

TOPIC TAGS: electric generator, electric theory

ABSTRACT: The idealized model of a three-dimensional machine (or a machine with three degrees of freedom in motion of the rotor) may be based on treatment of the machine as a system of linear circuits in motion with respect to one another and having lumped parameters. The author derives expressions for determining the parameters of these circuits and their relationship to mechanical variables as a basis for a complete picture of the processes in the machine. It is assumed that the permeability of the material for the stator and rotor is infinite and that the effect of the channels containing the windings can be disregarded. Expressions are found for calculating the inductive parameters of the machine on the basis of formulas for the energy of the mag-

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ACC NR: AT6020424

netic field stored in the air gap in terms of the magnetic flux density and field strength. The system of parameters formed by the resultant expressions together with formulas for resistance (accounting for energy dissipation in the machine) and mechanical parameters may be used for writing out the equations of the machine. Orig. art. has: 1 figure, 24 formulas.

SUB CODE: 09/ SUBM DATE: 26Oct65/ ORIG REF: 005

Machine design 14

kh

Card 2/2

L 05883-67 EWP(k)/EWP(h)/EWT(d)/EWT(l)/EWP(v)/EWP(l) GD

ACC NR: AT6020423 (N) SOURCE CODE: UR/0000/65/000/000/0036/0049 36 35 B+1

AUTHOR: Milyakh, A. N.; Barabanov, V. A.

ORG: Institute of Electrodynamics AN UkrSSR (Institut elektrodinamiki AN UkrSSR)

TITLE: Idealized physical model of a three-dimensional electric machine 19

SOURCE: AN UkrSSR. Preobrazovaniye i stabilizatsiya elektromagnitnykh protsessov (Conversion and stabilization of electromagnetic processes). Kiev, Naukova dumka, 1965, 36-49

TOPIC TAGS: electric generator, electric theory

ABSTRACT: An idealized physical model for a three-dimensional machine (or a machine with 3 degrees of freedom in rotor motion) is constructed by analogy with an ordinary machine on the basis of replacing discrete elements in an actual machine (discrete distribution of conductors, geometric faces in the magnetic system) with continuous structures. This procedure makes the resultant model accessible to investigation by analytic methods. The machine and its model are considered in a spherical coordinate system rigidly associated with the stator. It is assumed in constructing the idealized physical model that: 1. the permeability of the material for the stator and rotor is infinite; 2. the internal cavity of the stator is bounded by a sphere and completely encloses the rotor; 3. the actual windings of the machine are replaced by equivalent

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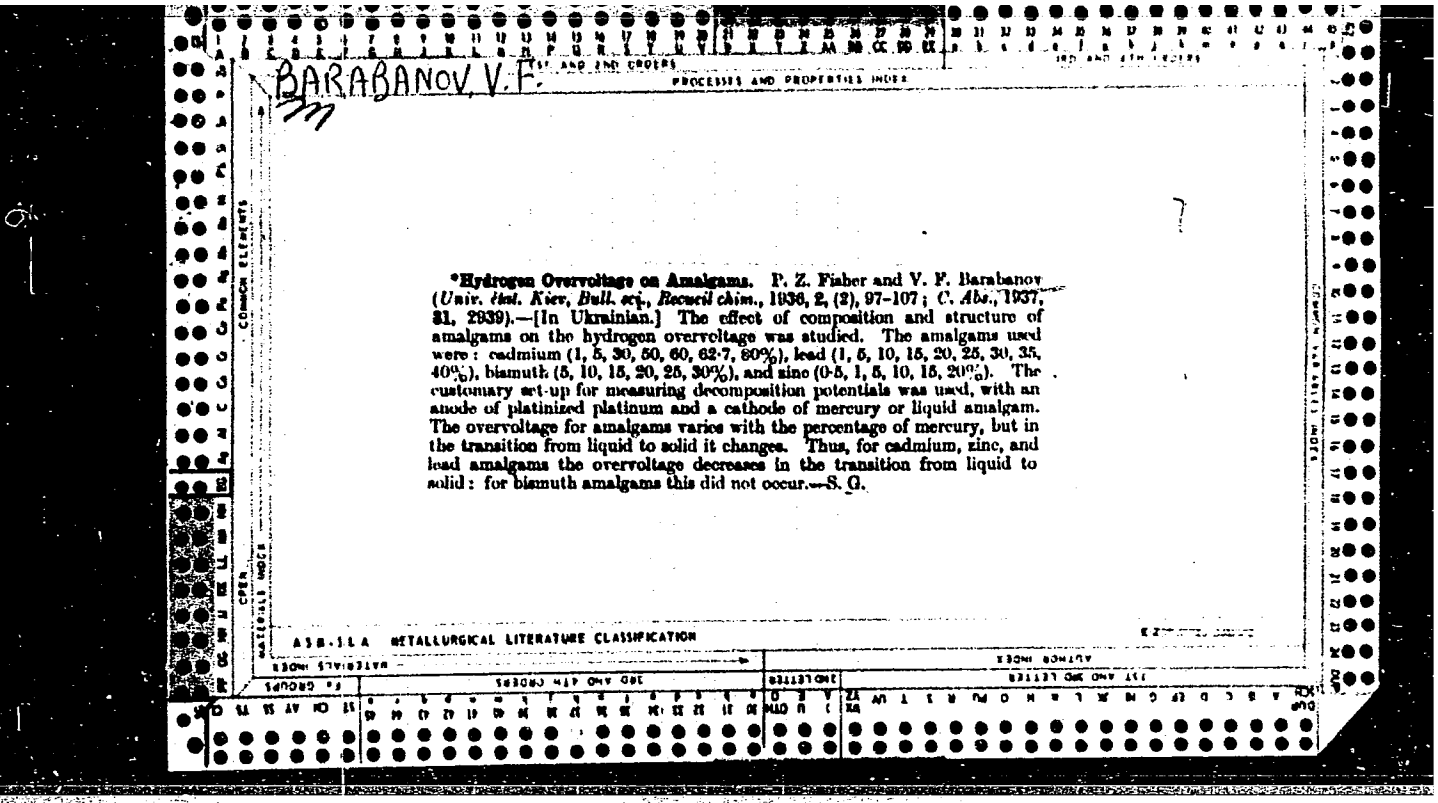
ACC NR: AT6020423

current layers; 4. there are three mutually perpendicular current layers on both the rotor and stator. It is shown that calculation of the electromagnetic field in the air gap of the machine reduces to determining the field components of a single arbitrarily oriented current layer. Expressions are derived for calculating the electric and magnetic field components of zero and first order. The proposed model is designed for studying the dynamics of the machine. A model closer to the actual machine may be constructed for studying steady-state conditions. Orig. art. has: 3 figures, 33 formulas.

SUB CODE: 09/ SUBM DATE: 26Oct65/ ORIG REF: 009/ OTH REF: 002

kh

Card 2/2



BARABANOV, V. F.

PROCESSES AND PROPERTIES INDEX

***Hydrogen Overvoltage on Amalgams.** P. Z. Fiaber and V. F. Barabanov (*Univ. Inst. Kiev, Bull. sci., Recueil chim.*, 1936, 2, (2), 97–107; *C. Abs.*, 1937, 31, 2939).—[In Ukrainian.] The effect of composition and structure of amalgams on the hydrogen overvoltage was studied. The amalgams used were: cadmium (1, 5, 30, 50, 60, 62·7, 80%), lead (1, 5, 10, 15, 20, 25, 30, 35, 40%), bismuth (5, 10, 15, 20, 25, 30%), and zinc (0·5, 1, 5, 10, 15, 20%). The customary set-up for measuring decomposition potentials was used, with an anode of platinized platinum and a cathode of mercury or liquid amalgam. The overvoltage for amalgams varies with the percentage of mercury, but in the transition from liquid to solid it changes. Thus, for cadmium, zinc, and lead amalgams the overvoltage decreases in the transition from liquid to solid: for bismuth amalgams this did not occur.—S. G.

ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

BARABANOV, V. F.

PA 35/49T68

USSR/Metals Dec 48
Iron Ore
Ore Deposits

"Diopside From the Yenskiy Iron Ore Deposits," V. F. Barabanov, 4 pp

"Dok Ak Nauk SSSR" Vol LXIII, No 6

Gives physical characteristics of 15 diopside crystals selected from this deposit and classifies them into three groups, each of which has different surface characteristics. Submitted by Acad A. A. Polkanov, 20 Oct 48.

[redacted] 35/49T68

BARABANOV, V. F.

Genetic problems of the phlogopite deposits of Slyudyanka. V. F. Barabanov (A. A. Zhdanov State Univ., Leningrad). *Zapiski Vsesoyuz. Mineralog. Obshchestva* (Mém. soc. russe minéral.) 83, 123-33(1954).—Characteristic is the frequent occurrence of apatite included in phlogopite, oriented with its c-axis parallel or perpendicular to the edge between (001) and (110) of the mica, or parallel or perpendicular to that between (001) and (010), with coincident positions of the [SiO_4] and [PO_4] coördination groups of the structures. This epitaxy is evidence for the higher age of the phlogopite, which also is older than the calcite of the veins. Phlogopite is younger than the scapolite and diopside. Extensive [illegible] reactions must have occurred between the pyroxene-amphibole gneiss country rocks and the contacts of the phlogopite veins. The detailed microscopic analysis shows that the reactions near the salbands extended only over about 1.5 m. distance, but with a distinct change of pyroxene to amphibole, and of plagioclase to scapolite. The phlogopitization of the metasomatic amphibole-scapolite rock extends only about 10 cm. beyond the salbands of the vein proper. The amphibole has disappeared in this zone. K feldspar and antiperthite, which have replaced the scapolite, indicate a typical K-metasomatism. The volatile components F, SO_3, Cl, H_2O, CO_2 all indicate a late hydrothermal phase of mineralization, including the formation of apatite in the carbonates. W. Eitel

BARABANOV, V.F.

Solid inclusions in topaz from Sherlova Mountain. V. F. Barabanov and L. Stupkina. *Vestnik Leningrad. Univ.* 10, No. 10, *Ser. Biol., Geograf. i Geol.* No. 4, 97–109(1955).—The topaz crystals are filled with inclusions to make them completely opaque, or enamel-like with a distinct zoning. Crystallographic data are given; d. is 3.513. Chem. compn. of a clear crystal: SiO_2 33.26; Al_2O_3 54.80; Fe_2O_3 0.36; H_2O 0.47; F_2 20.18%, corresponding to a 90.6% F topaz. Spectral analysis shows Mg, Ca present; weak: Cu, W, Ge; traces: Be, Mn, Sn, Ga, Mo, Ti, Ag, As, Pb. The inclusions within the inner of "porous" crystals are deposited on finest cracks and channels indicating the different stages of the crystal growth. They are filled with kaolinite (n = 1.567), or a whitish mica on the walls of the cavities, and quartz in the finest channels. Another type of inclusions shows dark-brown or greenish brown biotite (n about 1.647), often in excellent crystals. Inclusions and overgrowths on the surface of the topaz are usually kaolinite and Fe hydroxides filling cracks. The Fe ore contains besides Si, Mn, Al, Mg, Ca, also spectroanalytic traces of Mo, Cu, Pb, Ag, Sr, As, Sn, V, Ti, Zn, Co, Ni, Zr, Cr. The assumption of a "kaolinization" of the topaz is not correct, also not a new formation of mica. A very characteristic reaction, however, is observed in the topaz-aquamarine rock of Sherlova Mountain, viz. a change of biotite into muscovite and siderite, and of muscovite into kaolinite. Pseudomorphs of kaolinite after biotite are thus explained. Microscopic study of thin sections parallel and perpendicular to (001) shows the details of the zoning, and a complete history of the reactions occurring in the cavities of the topaz is derived on the basis of the "pulsation" theory. There is a strict analogy of the inclusions in the topaz with those in aquamarine and smoky quartz from Sherlova with "negative crystals." A late mineralization follows a tectonic brecciation characterized by the deposition or arsenopyrite as the cementing ore. W. Fitel

BARABANOV, V.F.

USSR/Minerals - Stellerite

Card 1/1 Pub. 22 - 40/50

Authors : Barabanov, V. F.

Title : Bukukinsk stellerite

Periodical : Dok. AN SSSR 100/1, 151-154, Jan. 1, 1955

Abstract : Mineralogical and chemical analysis data are presented regarding the stellerite mineral (hydrated aluminum calcium or sodium silicates) extracted from the Bukukinsk mines. Three references: 1 USA, 1 USSR and 1 German (1921-1953). Tables; drawings.

Institution: The A. A. Zhdanov State University, Leningrad

Presented by: Academician A. A. Polkanov, October 26, 1954

BARABANOV, V.F.

A case of replacement of natrolite by microcline. Dokl.AN SSSR 107 no.5:731-733 Ap '56. (MLRA 9:8)

1. Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova. Predstavleno akademikom D.I. Shcherbakovym.
(Microcline) (Natrolite)

20-114-4-54/63

AUTHOR: Barabanov, V. F.

TITLE: Apophyllite From the Gakman Canyon at the Khibiny (Apofillit iz ushchel'ya Gakmana v Khibinakh)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 4, pp. 876-879 (USSR)

ABSTRACT: Apophyllite is a rare silicate with a stratified structure. Up to recent times it was counted among the ceolithes, since about the half of its percentage of water has a ceolithic character. At present apophyllite is considered to be a peculiar mineral which has a transition structure from a structure of stratified character to a Karkass structure. In spite of numerous papers it is still the least investigated mineral. In the Khibiny tundras apophyllite was first discovered in Zhil'naya (orevalley) 1933, and later also in other places. Its sporadic finds gave rise to the opinion about the rarity and not sufficiently marked character of the apophyllites in the Khibiny. The veins of natrolite-apophyllite in the upper part of the Gakhman-canyon on the South Eastern slope of the Yukspor, discovered in 1947 by the author, proves that in the Khibiny it is apparently not so rare. The

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investigation of the veins shows furthermore, that their mineralogy is very peculiar. The composition of the veins is described. Two species of apophyllite occur: a greenish-yellow and a white one. The latter is more distributed in the mentioned veins. It forms crusts. Both species are represented by crystals in which formation facets of three simple forms participate: (111), (010), and (001). The stage of development of these forms is not equal and depends on the conditions of formation. In the talus of the Yukspor slope splinters of great microcline crystals were found which in the gaps is substituted by tablelike apophyllite. The yellowish-green apophyllite is an earlier generation of this mineral. The tablelike apophyllite is probably the youngest generation. In the case of the apophyllite-crystals double formations are especially characteristic of the yellowish-green species. These deformities have parallel facets common to both parts. The widely distributed white apophyllite occurs, besides in crusts, also as single little crystals which occur amalgamated with Egyrin (?) and lamphrophyllite needles. These deformities are chance deformities and not according to any rule. The properties of the apophyllite crystals are given in detail. Its white species contains 1,92% fluorine. The spectral

analysis shows the presence of traces of: beryllium, gallium, yttrium, barium, as well as lines of strontium of more than average brightness. On the occasion of weathering a white earthlike thin crust of opal- and calcite mixture is formed on the apophyllite crystals. In ultra-violet rays it has a greenish luminescence and a clear postluminescence. The veins of the Gakman-canyon are metasomatic formations. They are formed in consequence of a profound transformation of fine--grained egyrin-hornblende-nepheline-syenites under the influence of postmagnetic solutions. On this occasion a part of the minerals of the enclosing rocks are rearranged in the gap veins; they obtain idiomorphous outlines, a better crystallization and their composition is only unimportantly changed. Other minerals of the enclosing rocks, however, are simultaneously subjected to a thorough chemical transformation. Thus from nepheline there successively develop: sodalite, cancrinite, and natrolite. The latter is completely substituted by microline in vicinity of the veins. Rinolite-lov--chorrite is transformed among others as thoroughly. The apophyllite formation is also connected with this transformation. However, it takes place in conditions of a hydrothermal

Apophyllite From the Gakman-Canyon at the Khibiny 20-114-4-54/63

regime under the influence of carbonic solutions. There are 2 figures, 2 tables, and 11 references, 7 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova (Leningrad State University imeni A. A. Zhdanov)

PRESENTED: October 26, 1956, by D. I. Shcherbakov, Member, Academy of Sciences, USSR

SUBMITTED: October 24, 1956

Card 4/4

BARABANOV, V.F.

Cosalite from the Bukuka deposit. Dokl. AN SSSR 112 no.5:938-941 F '57. (MLRA 10:4)

1. Leningradskiy gosudarstvennyy universitet im. A.A. Zhdanova. Predstavleno akademikom D.I. Shcherbakovym.
(Bukuka--Bismuth ores)

BARABANOV, V.F.

Lamprophyllite from the Gakman gorge in the Khibiny Mountains [with summary in English]. Vest.LGU 13 no.12:15-24 '58. (MIRA 11:12)

(Khibiny Mountains--Lamprophyllite)

BARABANOV, V.F.; TSZOU TSZU-ZHUN [Tsou Tsu-jung]

Genesis of quartz-wolframite bodies in the quarry N18 of the Bukuka deposit. Vest.LGU 13 no.24:39-54 '58. (MIRA 12:4)
(Bakuka Mountain--Quartz)
(Bakuka Mountain--Wolframite)

AUTHOR: Barabanov, V. F. SOV/20-120-2-51/63

TITLE: The Problem of the Pressure in Processes of Mineral Formation in Quartz-Tungstenite Veins (K voprosu o roli davleniya pri protsessakh mineraloobrazovaniya v kvarts-vol'framitovykh zhilakh)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 120, Nr 2, pp. 400-403 (USSR)

ABSTRACT: It is a wide spread opinion in genetic mineralogy that the order of mineral deposit in the veins depends above all on the reduction of temperature (reference 10). There is, however, a lack of reliable criteria to express this dependency on temperature. In most recent times experiments were made to determine also the pressure which is necessary for the formation of hydrothermal veins (references 5,11-13). The measures were important because it is the pressure that apparently causes the existence of highly-concentrated solutions (reference 12). This opinion is almost everywere confirmed by natural procedures and experiments (references 3,5,9,13). The study of the ore deposits in the eastern Zabaykal'ye enabled the author to collect data. Studies of

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the parageneses lead to the consideration that the results of the opening of quartz-tungstenite veins during their formation depend above all on the phase character of the mineral forming medium and on the velocity of reduction of the inside pressure of the veins. In the following, 2 cases are discussed, according to the content of the vein cavity which is a) either a hydrothermal solution or b) gas or steam. a) In the case of a slowly performed opening of the cavity filled with a solution, the solution probably suffers no supersaturation. That is the reason why at that place substances deposit a bit quicker, forming characteristic textures of the mineral-aggregates (reference 2). A slight supersaturation of the solution by the gas phase leads to the precipitation of gas bubbles on facets of the growing crystals, when cavities are slowly opened. Later on they become the primary gas-water-inclusions. In the case of an abrupt opening of the cavity, a severe state of non-equilibrium is brought about in the system under discussion. The solution is at once supersaturated with solved substances and gases. As is known, it ferments. Thus by means of the

The Problem of the Pressure in Processes of Mineral Formation in Quartz-Tungstenite Veins

capture of gas bubbles the peculiar zonal types of quartz occur. The supersaturation of the solution may last for a long time. With the decreasing supersaturation due to the progressing crystallisation more and more the effects of the rules of geometric selection become visible (reference 2). The cases of an abrupt rise of temperature lead to contrary effects. The minerals formed at an earlier time are resorbed. b) It is more difficult to recognize the group of phenomena taking place under those conditions. Breccia develops in the case of a quick opening of the cavity. Finally it must be stressed that the opening of vein cavities is often accompanied by the influx of further amounts of mineral-forming solution. Thus it is possible that the new minerals can grow on those deposited earlier. It is also possible that a reciprocal effect occurs with the vein minerals if the new influx of the solution is chemically active. Thus tungstenite is metasomatically replaced by pyrite, and sphalerite by chalcopyrite, as well as quartz is replaced by microcline and albite etc.

The Problem of the Pressure in Processes of Mineral 307/20-120-2-51/63
Formation in Quartz-Tungstonite Veins

There are 4 figures and 13 Soviet references.

ASSOCIATION: Leningradskiy Gosudarstvennyy universitet im. A.A. Zhdanova (Leningrad State University imeni A. A. Zhdanov)

PRESENTED: October 18, 1957, by D. I. Shcherbakov, Member, Academy of Sciences (USSR)

SUBMITTED: October 18, 1957

1. Minerals--Geology 2. Minerals--Temperature factors
3. Geochemistry--USSR 4. Minerals--Pressure

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AUTHOR: Barabanov, V. F. SOV/20-121-3-39/47

TITLE: On the Problem of the Genesis of Feldspar in the Quartz Tungstenite Veins of East Trans-Baikalia (K voprosu o genezise polevykh shpatov v kvarts-vol'framitovykh zhilakh Vostochnogo Zabaykal'ya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 3, pp. 538 - 540 (USSR)

ABSTRACT: In this paper the results of the feldspar investigations in the Bukukinskoye deposit are dealt with. Feldspar is represented by potassium feldspar and albite. The separations of these minerals are of irregular shape and they reach a considerable size. In some places feldspar is completely replaced by quartz. Potassium feldspar forms granular pink-creme colored aggregates. The grains are not bigger than 1 cm. Albite is white or slightly creme-colored. Its grains form radial aggregates with a characteristic chess-board-like structure under the microscope. Optical constants of both minerals are mentioned. Adularia and albite prospected from the veins mentioned in the title are brown and semitransparent. When they are considerably enlarged the extremely numerous but very small gas inclusions are

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visible. These gas inclusions cause the coloring. The chemical analysis was carried out by K.P.Sokova in the Chemical Central Laboratory IGN of the AS USSR. The analysis of the results proves the assumption that feldspar represents indeed an albite adularia mixture (2 : 1). Plagioclase is represented by albite number 3. The tiny 2-phase inclusions consist on the whole of carbonic acid. Lines were determined by means of spectral analysis: medium-light: barium, beryllium; weak: strontium, copper, bismuth, molybdenum ; line traces: thallium, titanium, telluric, vanadium. The specific weight was found to be 2,588 $\pm$ 0,001. The investigations of the 2 minerals showed that their existence in the tungstenite bearing veins is connected with the processes of change around the veins (okolozhil'noye izmeneniye = greisenization of granodiorite). In the course of this process anorthite is removed from plagioclase which is represented in granodiorite by andesine number 36 - 38. Thus pure albite is separated. Sericite and a potassium-bearing mineral are formed at the expense of anorthite. Albite released from plagioclase is accumulated in the greisenized rocks near the vein and in the case of favorable conditions it enters the vein through

tectonically weakened zones. There it replaces quartz and cements the vein minerals. The existence of feldspar and albite in the mentioned veins was regarded as a proof for their genetical relation with pegmatites (Ref 1). The results show that "microcline" and albite could not serve for this purpose. There are 4 figures, 1 table, and 5 references, 5 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova (Leningrad State University imeni A. A. Zhdanov)

PRESENTED: April 2, 1958, by D. I. Shcherbakov, Member, Academy of Sciences, USSR

SUBMITTED: March 31, 1958

BARABANOV, V.F.

Behavior of feldspars during greisenization. Zap. Vses. min. ob-va 87 no.4:448-454 '58. (MIRA 12:1)

1.Kafedra mineralogii Leningradskogo universiteta.
(Feldspar)

BARABANOV, V.F., otv.red.; SOLODOVNIKOVA, L.L., otv.red.; BUSORGINA, N.I., red.; VODOLAGINA, S.D., tekhn.red.

[Mineralogy of postmagmatic processes] K mineralogii postmagmaticheskikh protsessov. Leningrad, 1959. 232 p. (MIRA 12:9)

1. Leningrad. Universitet.
(Mineralogy)

BARBANOV, V.F.

Quartz from the Bukyka wolframite deposit (eastern Transbaikalia). Vest. LGU 14 no.12:34-49 '59. (MIRA 12:?)
(Transbaikalia--Quartz)
(Transbaikalia--Wolframite)

BARABANOV, V.F.; TOMAKOV, P.I.; DERGACHEV, I.I.

Open-pit system for mining steep and inclined seams with filling of worked-out areas with barren rock. Ugol' 34 no.12:6-8 D '59. (MIRA 13:4)

1. Glavnyy inzhener tresta Prokop'yevskugol' (for Barabanov). 2. Glavnyy inzhener kar'yera No.8 (for Tomakov). 3. Zamestitel' glavnogo inzhenera kar'yera No.8 (for Dergachev)
(Kuznetsk Basin--Strip mining) (Mine filling)

BARABANOV, V.F.

Fluorite from the Bukuka wolframite deposit (eastern Transbaikalia). Zap.Vses.min.ob-va 88 no.2:126-136 '59. (MIRA 12:8)

1. Kafedra mineralogii Leningradskogo gosudarstvennogo universiteta.
(Bukuka region (Transbaikalia)--Fluorite)

BARABANOV, V.F.

Sericites and gilberties from the Bukuka deposit. Vest. LGU 15 no.6:54-66 '60. (MIRA 13:3)
(Bukuka region (Transbaikalia)--Sericite)
(Bukuka region (Transbaikalia)--Gilbertite)

BARABANOV, V. F. Dr Sc-Mineral Sci (diss) " Minerology of Bukukinsk and Belukhinsk tungsten deposits (Eastern Transbaykal)", Leningrad, 1960, 46 pp (Leningrad State Mining Institute imeni G. V. Plekhnov, Chair of Minerology) (KL, 40-60, 121)

BARABANOV, V.F.

Determination of the composition of wolframite based on its specific gravity. Vest.LGU 15 no.12:149-151 '60.
(MIRA 13:6)

(Transbaikalia--Wolframite)

BARABANOV, V.F.

Mineralogy of apophyllite veins in Yukspor Mountain (Khibiny Mountains). Vop. geol. i min. Kol'. poluos. no.3:161-218 '60. (MIRA 13:9)

(Khibiny Mountains--Mineralogy)

BARABANOV, Vladimir Fedorovich; SEMENOVA, Ye.A., red.; VODOLAGINA, S.D., tekhn. red.

[Mineralogy of wolframite deposits in eastern Transbaikalia; Bukuka-Belukha] Mineralogiia vol framitovykh mestorozhdenii Vostochnogo Zabaikal'ia; Bukuka - Belukha. Leningrad, Izd-vo Leningr. univ., 1961. (MIRA 14:10)
(Transbaikalia—Wolframite)

BARABANOV, V.F.

Concerning the article by A.D. Shcheglov "Genesis of wolframite deposits in Transbaikalia." Vest. LGU 17 no.18:134-142 '62. (MIRA 15:10)

(Transbaikalia--Wolframite) (Shcheglov, A.D.)

BARABANOV, V.F.; SHAFRANOVSKIY, I.I.

Calcite crystals from the Bukuka and Belukha wolframite deposits. Vest.LGU 18 no.6:12-23 '63. (MIRA 16:4)
(Transbaikalia--Calcite crystals)
(Transbaikalia--Wolframite)

BARABANOV, V.F.; GONCHAROV, G.N.; KRYLOVA, L.Ya.; RAFAL'SON, M.B.

Evolution of fluorite crystal forms in the ore veins of the Bukaka deposit. Zap. Vses. min. ob-va 92 no.3:316-322 '63. (MIRA 17:9)

1. Kafedra mineralogii Leningradskogo universiteta.

BARABANOV, V.F.; KLER, M.M. [deceased]; STEPANOVA, S.M.

Determining the reflecting properties of minerals by the MF-2 microphotometer. Vest. LGU 19 no.12:32-37 '64 (MIRA 17:8)

MURAV'YEVA, I.P.; BARABANOV, V.F.; KIER, M.M. [deceased]

Studying microadmixtures in pyrites from wolframite deposits in eastern Transbaikalia. Geokhimiia no.11:1157-1163 N '64.
(MIRA 18:8)

1. Leningradskiy ordena Lenina Gosudarstvennyy universitet imeni A.A.Zhdanova.

BARABANOV, V.I.; ABRAMOV, V.S.

Reaction of phosphinic acids with aldehydes and ketones. Part 76: Esters of ethyl(methyl)-α-hydroxy-$\beta,\beta\beta$-trichloroethylphosphinic acid, analogs of chloromes. Zhur.ob.khim. 35 no.[illegible] P '65. (MIRA 19:1)

1. Kazanskiy veterinarnyy institut. Submitted October 25, 1964.

ACC NR: AP6016706 SOURCE CODE: UR/0079/65/035/012/2225/2229

AUTHOR: Barabanov, V. I.; Abramov, V. S.

ORG: Kazan' Veterinary Institute (Kazanskiy veterinarnyy institut)

TITLE: Interaction of phosphinic acids with aldehydes and ketones. XXVI. Esters of ethyl (methyl)-alpha-oxy-beta, beta, beta-trichloroethylphosphinic acid -- analogs of chlorofos

SOURCE: Zhurnal obshchey khimii, v. 35, no. 12, 1965, 2225-2229

TOPIC TAGS: phosphinic acid, aldehyde, ketone, ester, chlorinated organic compound, alkyl group

ABSTRACT: The authors proposed to introduce an alkyl group in place of the alkoxy group on chlorofos to produce esters of alkylphosphinic acids with stronger insecticidal properties, or other physiological properties. The esters of alkylphosphinous acids, analogs of chlorofos, can be obtained by the action of chloral on the esters of phosphinous acids.
Thirteen new esters of ethylphosphinous and methylphosphinous acids were obtained, whose physical constants are presented. The general formula of the esters is (R)(R'O)P(O)(H), where R is either a methyl or ethyl group and R' is sec-C_5H_{11}, o-$ClC_6H_4CH_2$, C_6H_5, m-ClC_6H_4, 2,4-$Cl_2C_6H_3$, 2,4,6-$Cl_3C_6H_2$, p-$O_2NC_6H_4$, C_5H_{11}, sec-C_5H_{11}, ClC_2H_4

Card 1/2 UDC: 547.26'118 : 547.438.1

L 25602-66

ACC NR: AP6016706

(CH_3) $(C_6H_5)CH$, o-$C_2H_5C_6H_5$, or o-$ClC_6H_4CH_2$.

The esters of ethylphosphinous and methylphosphinous acids react vigorously with chloral to form esters of ethyl-alpha-oxy-beta,beta, beta-trichlorethylphosphinic and methyl-alpha-oxy-beta,beta,beta-trichlorethylphosphinic acids. Forty of these white crystalline compounds were obtained and characterized.
According to preliminary data the esters of ethyl-alpha-oxy-beta, beta,beta-trichlorethylphosphinic acids possess miotic and insecticidal activity. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 25Dec64 / ORIG REF: 005 / OTH REF: 002

Card 2/2 FV

L 25709-66 EWT(1) GW

ACC NR: AP6010554 SOURCE CODE: UR/0026/65/000/011/0114/0116

AUTHOR: Baranov, V. I. (Professor

ORG: none

TITLE: A scientist of high standing

SOURCE: Priroda, no. 11, 1965, 114-116

TOPIC TAGS: geochemistry, biochemistry, chemical personnel, biologic personnel

ABSTRACT: A biography of Academician Aleksandr Pavlovich Vinogradov is presented on the occasion of his 70th birthday. He was a pupil and close associate of B. I. Vernadskiy, founder of the Biogeochemical Laboratory ("Biogel") of the Academy of Sciences. This laboratory was established in 1927 for the study of chemical composition of living organisms in connection with geology. Academician Vinogradov improved the laboratory research by introducing new methods and instruments (mass-spectroscopy, polarography, etc.). In his monograph "Chemical Composition of Marine Organisms" (republished in foreign countries), he considered the elemental chemical composition as an essential characteristic of species. His book "Geochemistry of Rare and Dispersed Elements in Soils" represented the results of investigations by "Biogel" of the earth's crust in SSSR. He also developed a theory of biogeochemical

Card 1/2

L 25709-66

ACC NR: AP6010554 3

regions and laid a basis for using special fertilizers with microelements needed by man and animals. He extended the field of activities of the old "Biogel" by transforming this laboratory in the "Institute of Geochemistry and Analytical Chemistry im. V. I. Vernadskiy, AN SSSR". He pushed the studies of geochemistry in a physical-chemical direction in contrast to the old prevailing geological-mineralogical tendency. He introduced new methods of separation of isotopes and organized new research in the magmatogenic laboratory headed by N. I. Khitarov. Vinogradov, being professor of Moscow University, headed the department of geochemistry. He also organized the studies of cosmic dust in his Institute. He showed that the oxygen liberated by plants is a result of decomposition of water and not of carbon dioxide. Studying the role played by natural radioactive potassium in living organisms, he found that the radioactivity is not needed for development of life. Investigating the chemical composition of the earth's crust, ocean and atmosphere he came to the conclusion that the crust, water and air are products of melting and degasification of the original cold substance similar to stone meteorite. In conclusion, it was mentioned that A. P. Vinogradov was made a hero of Socialist labor, and was awarded the Lenin Prize and other decorations. Orig. art. has: 1 photo.

SUB CODE: 06,08 / SUB DATE: None / ORIG REF: 000 / OTH REF: 000

Card 2/2 Jo

ACC NR: AP6033179 SOURCE CODE: UR/0079/66/036/010/1830/1834

AUTHOR: Abramov, V. S.; Barabanov, V. I.

ORG: Kazan Veterinary Institute (Kazanskiy veterinarnyy institut)

TITLE: Reactions of phosphonous acids with aldehydes and ketones. Part 27: Esters of ethyl-α-hydroxynitro(fluoro)benzylphosphonic and ethyl(methyl)-α-hydroxy-α-diethoxyphosphonoethylphosphonic acid

SOURCE: Zhurnal obshchey khimii, v. 36, no. 10, 1966, 1830-1834

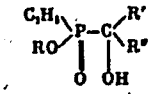
TOPIC TAGS: phosphonic acid, organic phosphorus compound, aldehyde, ketone, ester

ABSTRACT: It is shown that incomplete esters of alkylphosphonous acids react in the absence of a catalyst with nitrobenzaldehydes, fluorobenzaldehydes, and 3-chloro-2-butanone to form esters of alkyl-α-hydroxynitrobenzylphosphonic, alkyl-α-hydroxyfluorobenzylphosphonic and alkyl-α-hydroxy-2-chloroisobutylphosphonic acids. Incomplete esters of alkylphosphonous acids react with esters of acetophosphonic acids in the absence of a catalyst to form esters of alkyl-α-hydroxy-α-dialkoxyphosphonoethylphosphonic acid, which distils under reduced pressure without decomposition. Their IR spectra show a broad band characteristic of a hydroxyl group bound by a hydrogen bond. Preliminary data show that the synthesized compounds (see Tables 1 and 2) have insecticide properties and a miotic effect. Orig. art. has: 1 figure and 2 tables.

 UDC: 547.26'118

ACC NR: AP6033179

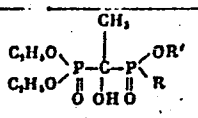
Table 1. Esters of ethyl-α-hydroxynitro(fluoro)-benzylphosphonic acid



Formula	R	R'	R''	(%)	MP (solvent)	d_4^{20}	n_D^{20}	MR_D measured	MR_D calculated
$C_{13}H_{19}NO_5P$	C_4H_9	H	o-$O_2NC_6H_4$	64	89—90° (benzene)	—	—	—	—
$C_{13}H_{19}NO_5P$	C_4H_9	H	m-$O_2NC_6H_4$	41	151—152 (acetone)	—	—	—	—
$C_{13}H_{19}NO_5P$	C_4H_9	H	n-$O_2NC_6H_4$	38	163—164 (")	—	—	—	—
$C_{12}H_{17}NO_5P$	C_3H_7	H	m-$O_2NC_6H_4$	45	144—145 (")	—	—	—	—
$C_{11}H_{14}ClNO_5P$	ClC_2H_4	H	o-$O_2NC_6H_4$	44	120—121 (benzene)	—	—	—	—
$C_{11}H_{14}ClNO_5P$	ClC_2H_4	H	m-$O_2NC_6H_4$	21	110—111 (acetone)	—	—	—	—
$C_{11}H_{14}ClNO_5P$	ClC_2H_4	H	n-$O_2NC_6H_4$	65	128—129 (")	—	—	—	—
$C_{15}H_{25}NO_3P$	C_4H_9	H	R-$(CH_3)_2NC_6H_4$	42	130—131 (")	—	—	—	—
$C_{13}H_{19}FO_3P$	C_4H_9	H	o-FC_6H_4	90	—	1.2670	1.5005	63.68	64.08
$C_{13}H_{19}FO_3P$	C_4H_9	H	n-FC_6H_4	93	—	1.2700	1.5029	63.71	64.08
$C_{11}H_{14}ClFO_3P$	ClC_2H_4	H	o-FC_6H_4	84	—	1.4450	1.5235	59.37	59.71
$C_{11}H_{14}ClFO_3P$	ClC_2H_4	H	n-FC_6H_4	96	—	1.4220	1.5145	59.43	59.71
$C_8H_{18}ClO_3P$	C_2H_5	CH_3	CH_3CHCl	70	—	1.1631 1.1630*	1.4645 1.4563*	54.26 54.23	54.76
$C_9H_{20}ClO_3P$	C_3H_7	CH_3	CH_3CHCl	76	—	1.1230 1.1228*	1.4605 1.4600*	59.04 59.20	59.37

Card 2/4

Table 2. Esters of methyl(ethyl)-α-hydroxy-α-diethoxyphosphonoethyl-phosphonic acid



Formula	R	R'	Yield (%)	BP (p in mm)	d_4^{20}	n_D^{20}	MR measured	MR calculated
$C_8H_{20}O_6P_2$	CH_3	CH_3	22	99—100° (0.1)	1.1710	1.4300	60.44	60.75
$C_9H_{22}O_6P_2$	CH_3	C_2H_5	34	115—116 (0.1)	1.1611	1.4365	64.96	65.37
$C_{10}H_{24}O_6P_2$	CH_3	C_3H_7	37	123—124 (0.1)	1.1320	1.4400	70.32	70.00
$C_{11}H_{26}O_6P_2$	CH_3	C_4H_9	59	141—142 (0.1)	1.1270	1.4425	74.23	74.61
$C_9H_{21}ClO_6P_2$	CH_3	ClC_2H_4	68	MP 70—71° (benzene)	—	—	—	—
$C_9H_{22}O_6P_2$	C_2H_5	CH_3	33	107—108 (0.1)	1.1490	1.4320	65.03	65.37
$C_{10}H_{24}O_6P_2$	C_2H_5	C_2H_5	41	120—121 (0.1)	1.1211	1.4310	69.72	70.00
$C_{11}H_{26}O_6P_2$	C_2H_5	C_3H_7	36	128—129 (0.1)	1.1201	1.4388	74.20	74.61
$C_{12}H_{28}O_6P_2$	C_2H_5	C_4H_9	78	136.5 (0.1)	1.1050	1.4419	79.02	79.23
$C_{10}H_{23}ClO_6P_2$	C_2H_5	ClC_2H_4	85	MP 78—79° (benzene)	—	—	—	—

Card 3/4

ACC NR: AP6033179

SUB CODE: 07/ SUBM DATE: 18Sep65/ ORIG REF: 006

Card 4/4

SIDOROV, V.A., inzhener; BARABANOV, V.K., inzhener.

Use of fluorescent lighting. Svetotekhnika 2 no.2:11-14 Mr '56.
(MLRA 9:7)

1.Moskovskiy gosudarstvennyy universitet.
(Fluorescent lighting)

S/081/61/000/019/074/085
B117/B110

AUTHOR: Barabanov, V. N.

TITLE: Possibilities of using polyamide plastics for the repair of friction bearings

PERIODICAL: Referativnyy zhurnal. Khimiya, 19, 1961, 485, abstract 19P82 (Tr. Mosk. in-ta mekhaniz. i elektrifik. s.kh., v. 12, 1960, 14 - 40)

TEXT: Experiments made for using polycaprolactam (PC) for the repair of worn-out steel-aluminium bearing boxes of Diesel engine friction bearings and of other gliding parts in other machines are described. The plastic lining was sprayed onto the operating surfaces of bearing boxes at machine part temperatures between 230 and 240°C. To avoid the oxidation of PC in the air, the spraying process was accelerated (1 - 3 minutes). Prior to ...ring the lining, the surface of the machine part was degreased, sand... ...reated with compressed air, and rinsed in a gasoline bath. It ...that adhesion and strength of the applied layer are not ...s and ...disadvantages:

S/123/61/000/016/001/022
A004/A101

AUTHOR: Barabanov, V.N.

TITLE: On the possibility of using polyamide plastics for the reconditioning of antifriction bearings

PERIODICAL: Referativnyy zhurnal. Mashinostroyeniye, no. 16, 1961, 21, abstract 16A158 ("Tr. Mosk. in-ta mekhaniz. i elektrifik. s.Kh.", 1960, v. 12, 14 - 40)

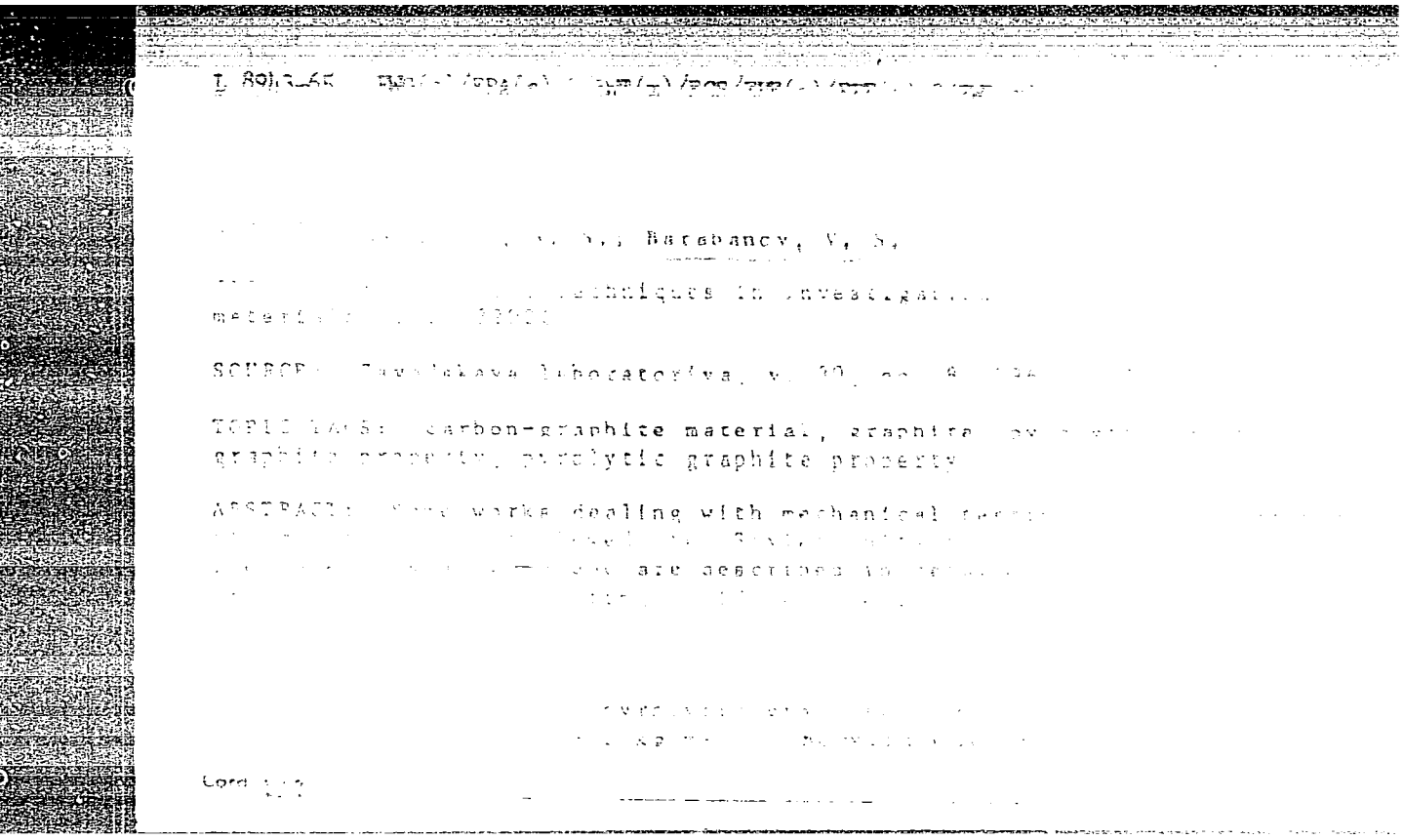
TEXT: The author gives an account of the results of investigating the properties of polyamide plastics to determine the possibility of using this material instead of babbitt for the reconditioning after wear of steel-aluminum bearing bushes of diesel engines. A description is given of the technological process of reconditioning the bushes (preparing the surface prior to coating, application of coating, mechanical working) and of the results of stand and service tests of the bearing bushes reconditioned with plastic coating.

N. Sazonova

[Abstracter's note: Complete translation]

Card 1/1

BARABANOV, V. N. Cand [redacted] Tech Sci -- "Study of polycaprolactam as a material for the repair of tractor slide bearings." Mos, 1960 (Min of Higher and Secondary Specialized Education RSFSR. Mos Motor [redacted] Transport and Highways Inst). (KL, 1-61, 191)



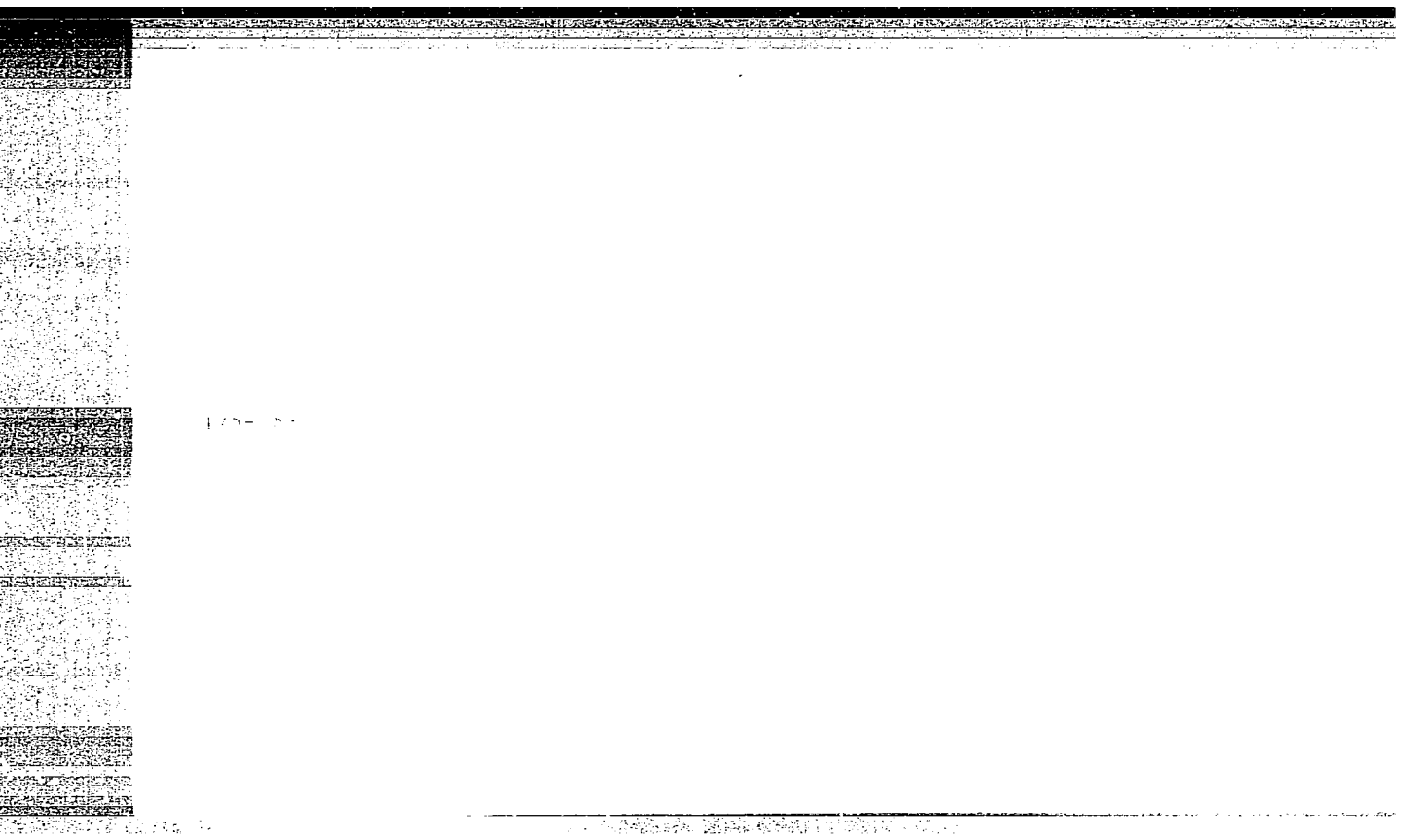
L 8943-65

ACCESSION NR: AP 4043303

does not exceed 0.1-0.3% at temperatures

LIVENTSEV, V.D.; LUSHNIKOV, G.A.; ZAYTSEV, G.G.; BARABANOV, V.N.; ANUFRIYEV, Yu.P.

Investigating certain properties and the mechanism of the deformation of graphite. Konstr. uglegraf. mat. no.1:175-189 '64.
(MIRA 17:11)



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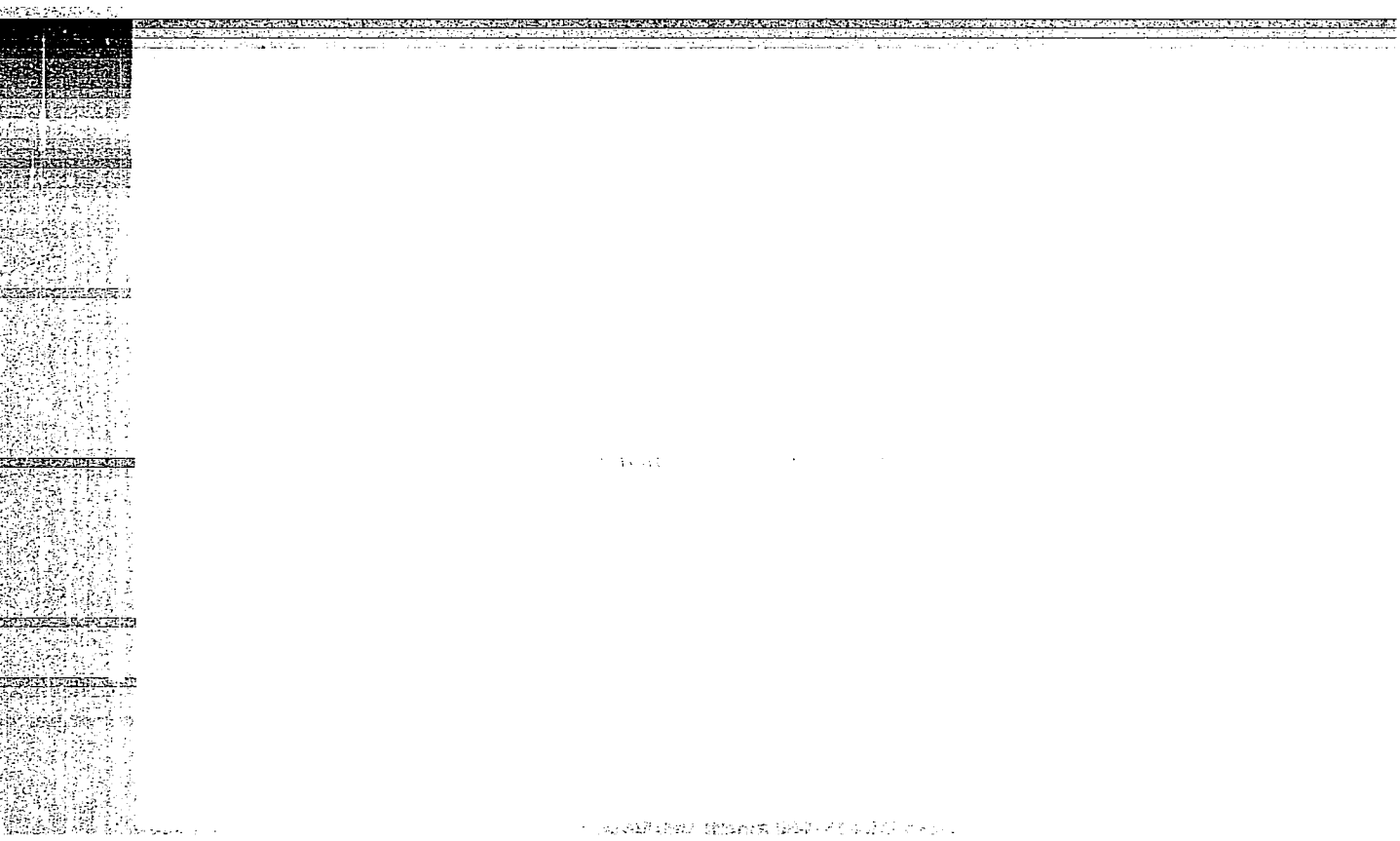

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APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000103420007-4"

DERGUNOV, N.N.; BARABANOV, V.N.

Experimental technique in studying carbon-graphitic materials at 20° - 3200°C; review. Zav. lab. 30 no.8:997-1005 '64. (MIRA 18:3)

L 36927-66 EWT(d)/EWP(e)/EWT(m)/EWP(v)/EWP(k)/EWP(h)/EWP(l) WW/WH

ACC NR: AP6012221 SOURCE CODE: UR/0032/66/032/004/0459/0462

AUTHOR: Barabanov, V. N.; Anufriyev, Yu. P.; Zaytsev, G. G.; Pimkin, M. Ya.

ORG: none

TITLE: Description of the method and the results of fatigue tests on graphite with alternating bending

SOURCE: Zavodskaya laboratoriya, v. 32, no. 4, 1966, 459-462

TOPIC TAGS: fatigue strength, graphite

ABSTRACT: Material for the tests was high density construction graphite (γ = 1.78-1.9 grams/cm^2). The tests were carried out in a type MUI-6000 machine, at room temperature, with a symmetrical cycle. The diameter of the working section was taken as 15 mm. This was based on an attempt to increase the initial strength of the sample, and, at the same time, to decrease the relative error of the determination of the fatigue limit and to decrease the scatter of the experimental data, which increases with an increase in diameter. Results of testing samples with a cylindrical working section are shown in a figure. According to the experimental data, the fatigue limit for the construction graphite under

Card 1/2 UDC: 620.178.32

L 36927-66
ACC NR: AP6012221

examination, with simple bending of a rotating sample, may be taken approximately as equal to 140 kgf/cm^2 in a parallel direction and 100 kgf/cm^2 in a perpendicular direction. These results are said to be only approximate but suitable for use in calculations. Orig. art. has: 2 figures.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 001

Card 2/2 fdb

KOCHERGIN, S.M.; BARABANOV, V.P.; TSENTOVSKIY, V.M.

Polyelectrolytic behavior of solutions of the copolymers of methylmethacrylate and chloroacrylic acid. Izv.vys.ucheb.zav.; khim. i khim.tekh. 8 no.2:301-304 '65.

(MIRA 18:8)

1. Kazanskiy khimiko-tekhnologicheskiy institut imeni Kirova, kafedra fizicheskoy i kolloidnoy khimii.

KOCHERGIN, S.M.; BARABANOV, V.P.; BOGDANOV, B.L.

Study of electrolytic transport in solutions of a copolymer of methacrylic acid by the radioactive tracer method. Trudy KKHTI no.30:277-281 '62. (MIRA 16:10)

BARABANOV, V. P.

Electrolytic purification of organic solvents by removing impurities and water. Zhur. fiz. khim. 37 no. 3:710-711 Mr '63. (MIRA 17:5)

1. Kazanskiy khimiko-tekhnologicheskiy institut imeni Kirova.

L 42181-66 EWP(j)/EWT(m)/T IJP(c) RM/WW

ACC NR: AR6014536 (A) SOURCE CODE: UR/0081/65/000/019/S082/S082

AUTHORS: Barabanov, V. P.; Tsentovskiy, V. M. 56 B

TITLE: Preparation and physical and chemical properties of copolymer of acrylic acids with methylmethacrylate

SOURCE: Ref. zh. Khimiya, Abs. 19S513

REF SOURCE: Tr. Kazansk. khim.-tekhnol. in-ta, vyp. 33, 1964, 263-268

TOPIC TAGS: acrylic acid, copolymer, methylmethacrylate, solubility, fluid viscosity, chemical synthesis, electron donor

ABSTRACT: Results obtained in a study of copolymerizing methylmethacrylate with β-nitroacrylic, α-chloroacrylic, α-cyano- β-phenylacrylic, and β-phenylacrylic acids are reported, as are some of the physical properties of the produced copolymers (CP). α-Cyano- β-phenylacrylic acid was prepared by treating K salt of cyanoacetic acid with freshly distilled benzaldehyde. K salt of cyanoacetic acid was obtained from chloroacetic acid and KCN. The resulting acid was twice recrystallized from methanol, m.p. 178--179C. α-Chloroacrylic acid was prepared by saponifying α, β-dichloropropionate with $Ba(OH)_2$ in the presence of H_2SO_4. α, β-Dichloropropionate was obtained upon chlorination of crude methylmethacrylate. Prior to use, the acid was twice recrystallized from petroleum ether, m.p.

Card 1/2

BARABANOV, V.Ya., inzh.

Investigating the transportation of lump loads by a belt conveyor. Izv. vys. ucheb. zav.; gor. zhur. 8 no.1:83-88 '65.
(MIRA 18:3)

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki. Rekomendovana kafedroy transportnykh mashin i kompleksov.

SIMAKIN, A.M.; BARABANOV, V.Ye.; BORISOV, A.M.; AFONITOSHIN, V.N.; GRIBKOV, V.M.; CHUDESOV, I.D.; VOLCHKOV, D.A.; KUZNETSOVA, N.Ya., red.

[Technology of the maintenance of ZIL-150, ZIL-164 and ZIL-585 motor vehicles in agriculture] Tekhnologiia tekhnicheskogo obsluzhivaniia avtomobilei ZIL-150, ZIL-164 i ZIL-585 v sel'skom khoziaistve. Moskva, 1963. 78 p. (MIRA 17:9)

1. Perovo. Gosudarstvennyy Vsesoyuznyy nauchno-issledovatel'skiy tekhnologicheskiy institut remonta i ekspluatatsii mashinno-traktornogo parka. 2. Laboratoriya tekhnologii remonta i tekhnicheskogo obsluzhivaniya avtomobiley i reziny Gosudarstvennogo soyuznogo nauchno-issledovatel'skogo tekhnologicheskogo instituta.

ARDASHEV, G.R.; MIKHAYLOV, I.N.; ZAMORSKIY, V.V.; DOVGICH, I.A.; SEVERNEV, I.M.; DOMAN'KOV, V.M.; Prinimali uchastiye: FEDOSOV, I.M.; KRIVENKO, P.M.; KUDRYAVTSEV, P.R.; BARABANOV, V.Ye.; BRIL', E.P., red.; PARSHIN, V.G., tekhn. red.

[Technical maintenance of the KD-35, KDP-35, and T38 tractors] Tekhnicheskii ukhod za traktorami KD-35, KDP-35 i T38. Moskva, Biuro tekhn.informatsii GOSNITI, 1962. 153 p. (MIRA 16:10)

1. Russia 1923- U.S.S.R.) Ministerstvo sel'skogo khozyzystva. 2. Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy tekhnologicheskiy institut remonta i ekspluatatsii mashinno-traktornogo parka (for Ardashev, Mikhaylov, Fedosov, Krivenko, Kudryavtsev, Barabanov). 3. Ukrainskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Zamorskiy Dovgich). 4. Belorusskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Severnev, Doman'kov).
(Tractors--Maintenance and repair)

ARTEM'YEV, Yu.N., kand. tekhn. nauk; ASTVATSATUROV, G.G., inzh.; BARABANOV, V.Ye., inzh.; BARYKOV, G.A., inzh.; BISNOVATYY, S.I., inzh.; GALAYEVA, L.M., inzh.; GAL'PERIN, A.S., kand. tekhn. nauk; GAL'CHENKO, I.I., inzh.; GONCHAR, I.S., kand. tekhn. nauk; DEGTYAREV, I.L., kand. tekhn. nauk; DYADYUSHKO, V.P., inzh.; YERMAKOV, I.N., inzh.; ZHOTKEVICH, T.S., inzh.; ZUSMANOVICH, G.G., inzh.; KAZAKOV, V.K., inzh.; KOZLOV, A.M., inzh.; KOROLEV, N.A., inzh.; KRIVENKO, P.M., kand. tekhn. nauk; LAPITSKIY, M.A., inzh.; LEBEDEV, K.S., inzh.; LIBERMAN, A.R., inzh.; LIVSHITS, L.G., kand. tekhn. nauk; LOSEV, V.N., inzh.; LUKANOV, M.A., inzh.; LYUBCHENKO, A.M., inzh.; MAMEDOV, A.M., kand. tekhn. nauk; MATVEYEV, V.A., inzh.; ORANSKIY, N.N., inzh.; POLYACHENKO, A.V., kand. tekhn.nauk; POPOV, V.P., kand. tekhn. nauk; PUSTOVALOV, I.I., inzh.; PYTCHENKO, P.I., inzh.; PYATETSKIY, B.G., inzh.; RABOCHIY, L.G., kand. tekhn. nauk; ROL'BIN, Ye.M., inzh.; SELIVANOV, A.I., doktor tekhn. nauk; SEMENOV, V.M., inzh.; SKOROKHOD, I.I., inzh.; SLABODCHIKOV, V.I., inzh.; STORCHAK, I.M., inzh.; STRADYMOV, F.Ya., kand. tekhn. nauk; SUKHINA, N.V., inzh.; TIMOFEYEV, N.D., inzh.; FEDOSOV, I.M., kand. tekhn. nauk; FILATOV, A.G., inzh.; KHODOV, L.P., inzh.; KHROMETSKIY, P.A., inzh.; TSVETKOV, V.S., inzh.; TSEYTLIN, B.Ye., inzh.; SHARAGIN, A.M., inzh.; CHISTYAKOV, V.D., inzh.; BUD'KO, V.A., red.; PESTRYAKOV, A.I., red.; GUREVICH, M.M., tekhn. red.

(Continued on next card)

ARTEM'YEV, Yu.N.—— (continued) Card 2.

[Manual on the repair of machinery and tractors] Spravochnik po remontu mashinno-traktornogo parka. Pod red. A.I.Selivanova. Moskva, Sel'khozizdat. Vols.1-2. 1962. (MIRA 15:6)
(Agricultural machinery—Maintenance and repair)
(Tractors—Maintenance and repair)

BARABANOV, V.Ye.; VASILEVSKIY, V.I.; LEVIN, S.M.; KOSOROTOV, B.V., red.; TRUKHINA, O.N., tekhn. red.

[Electric equipment of tractors and motor vehicles] Elektrooborudovanie traktorov i avtomobilei. Moskva, Sel'khozizdat, 1963. 390 p. (MIRA 16:12)
(Motor vehicles—Electric equipment)
(Tractors—Electric equipment)

ACCESSION NR: AP5012345 UR/0292/65/000/005
511.118.001.2

AUTHOR: Barabanov, Ye. G. (Engineer)

TITLE: Method for enhancing the dynamic accuracy of digital variable
program-control systems

SOURCE: Elektrotekhnika, no. 5, 1965, 21-24

variable structure
program control

ABSTRACT: The limited maximum of the modulus of a controlled
derivative (the maximum torque of the actuator motor) is often responsible
accuracy of many program-control systems

Card 1/2

L 57889-65
ACCESSION NR: AP5012345

corrective measures turn the program control into a variable-structure system whose simplified optimization method is described in the article [illegible] switching of the auxiliary motor [illegible]

ASSOCIATION: none

[illegible] ENCL: 00 SUB

NO REF SOV: 008 OTHER: 000

Card 2/2

BARABANOV, Ye.G.

Method of optimum acceleration of an electric drive with a three-stator step-by-step motor up to synchronous rotation conditions. Izv. vys. ucheb. zav.; prib. 6 no.5:34-40 '63. (MIRA 16:11)

L 42217-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) GD/BC

ACC NR: AT6008926 SOURCE CODE: UR/0000/65/000/000/0106/0114

AUTHOR: Barabanov, Ye. G.

60
59
B+1

ORG: none

TITLE: Enhancing the dynamic accuracy of program control systems

SOURCE: AN SSSR. Institut elektromekhaniki. Avtomaticheskiye i teleinformatsionnyye sistemy (Automatic and teleinformation systems). Moscow, Izd-vo Nauka, 1965, 106-114

TOPIC TAGS: automatic control, automatic control system, automatic control theory

ABSTRACT: Based on 1959-65 Soviet and one Western sources, this brief review covers the following points: Dynamic error and dynamic accuracy components; Methods for enhancing dynamic accuracy of single-coordinate program-control systems having direct actuators and noncyclic operation (invariancy principle; use of optimizing computers; use of error tolerance; variable-structure program

Card 1/2

L 05268-67 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1)

ACC NR: AR6023991 SOURCE CODE: UR/0372/66/000/003/G014/G014

AUTHOR: Barabanov, Ye. G.

TITLE: Certain problems of program correction for programmed control systems

SOURCE: Ref. zh. Kibernetika, Abs. 3G102

REF SOURCE: Sb. Avtomat. i teleinform. sistemy. M.-L., Nauka, 1965, 114-119

TOPIC TAGS: automatic control theory, computer program, optimal control, error correction

ABSTRACT: The problems of the correction (optimization) of control programs with the object of improving the characteristics of automatic control systems are considered. The optimization of a program in the general case reduces to the substitution of a given function f(t) with the function g(t) which most exactly interpolates a given curve. An examination of the operator level of the error implies the following error formula:

$$E(p) = \Phi_{\Sigma}(p) \cdot F(p) - \Phi_{II}(p),$$

where $E(p) \rightleftharpoons \epsilon(t)$, $\epsilon(t)$ is the system error, $\Phi_{\Sigma}(p)$ is the transfer function with regard to the

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error, $F(p) \doteq f(t)$, $f(t)$ is the control effect, $\Phi_H(p)$ is the rational function p, which takes into account the dynamic properties of the system and the initial conditions. It can be seen that, since the error formula includes initial conditions, a change in initial conditions leads to a decrease in the dynamic error. During correction it is necessary to know factors of the most strenuous mode of operation, since it is precisely modes of this kind that require optimization. The most elementary correction is the insertion of a prediction into the system. S. A.
[Translation of abstract]

SUB CODE: 09, 12

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L 05266-67 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)
ACC NR: AR6023988 SOURCE CODE: UR/0372/66/000/003/G002/G002

AUTHOR: Barabanov, Ye. G.

36
B

TITLE: Methods of enhancing the dynamic accuracy of programmed control systems

SOURCE: Ref. zh. Kibernetika, Abs. 3G16

REF SOURCE: Sb. Avtomat. i teleinform. sistemy. M.-L., Nauka, 1965, 106-114

TOPIC TAGS: dynamic programming, time optimal control, automatic control

ABSTRACT: The article describes methods of enhancing dynamic accuracy that are specific for programmed control systems (PCS) and intended to minimize errors while at the same time depending on the properties of the computed dynamic characteristics of PCS. Methods of this kind are described with respect to single-coordinate PCS controlling continuous-action engines in noncyclic and cyclic modes of operation, given rigorously programmed relations between the instantaneous values of various coordinates and the non-rigorously specified time factor of the operation, as well as to PCS with step-by-step motors. Attention is paid to: application of the principle of invariance, employment of computing devices, utilization of error tolerances, use of variable-structure PCS, compilation of the operating program of

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ACC NR: AR6023988

PCS on the basis of the determination of the working regimes of an experience operator, endowing the PCS with the properties of self-organizing systems, changing the time scale of the input functions of the servosystems of PCS, influencing the relationship between the dynamic errors of individual coordinates of PCS, approximation of the program by the optimal group of reproducible functions, optimization of the startup and deceleration of PCS with step-by-step motors up to frequencies exceeding the normal operating-range flexibility. Bibliography of 13 titles. V. M. [Translation of abstract]

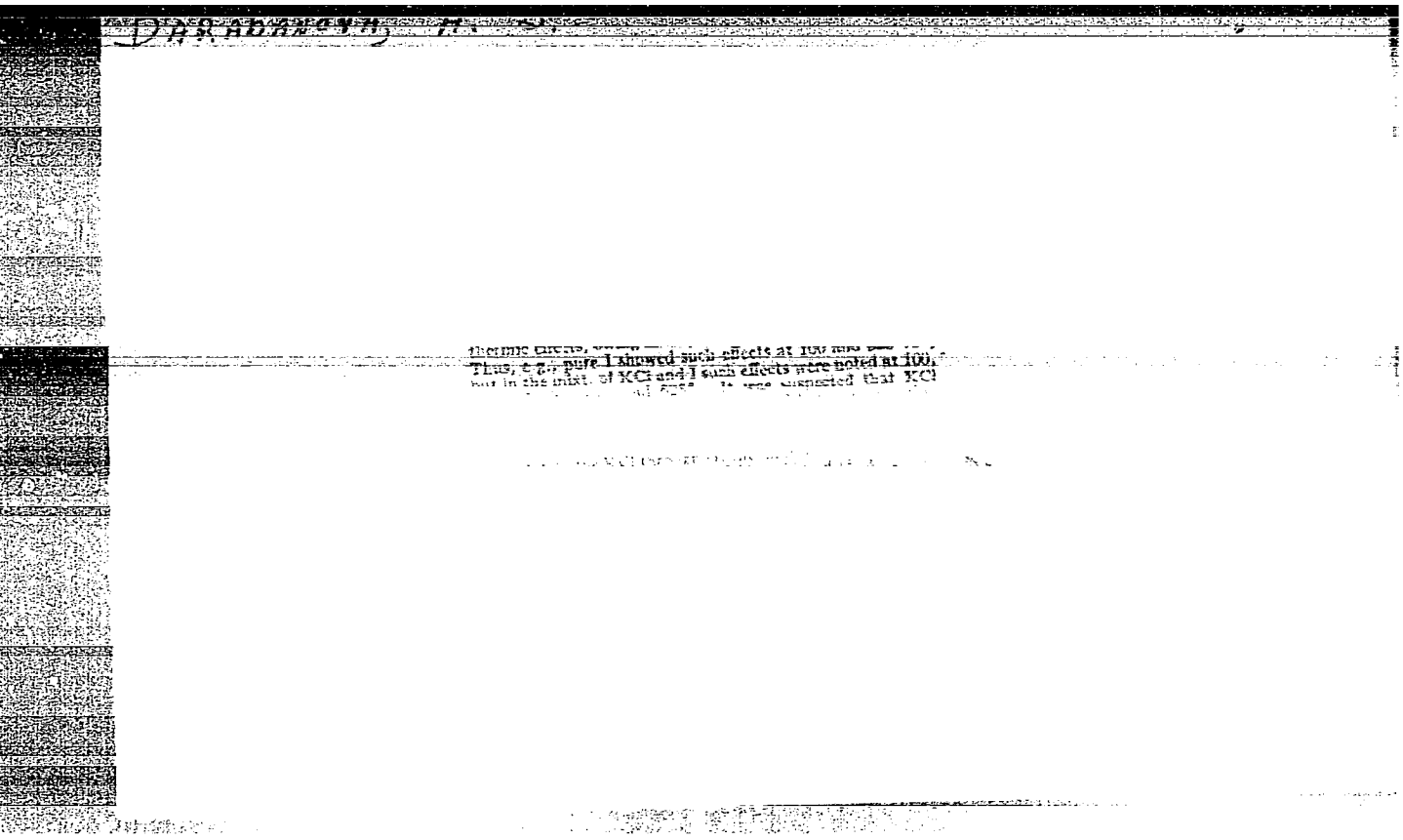
SUB CODE: 09, 05, 12/

Card 2/2

KURNOSOVA, A.I.; BARABANOVA, A.A., inzh.

Making up and calculation of yarn properties. Tekst. prom. 24 no.3:76-77 Mr '64. (MIRA 17:9)

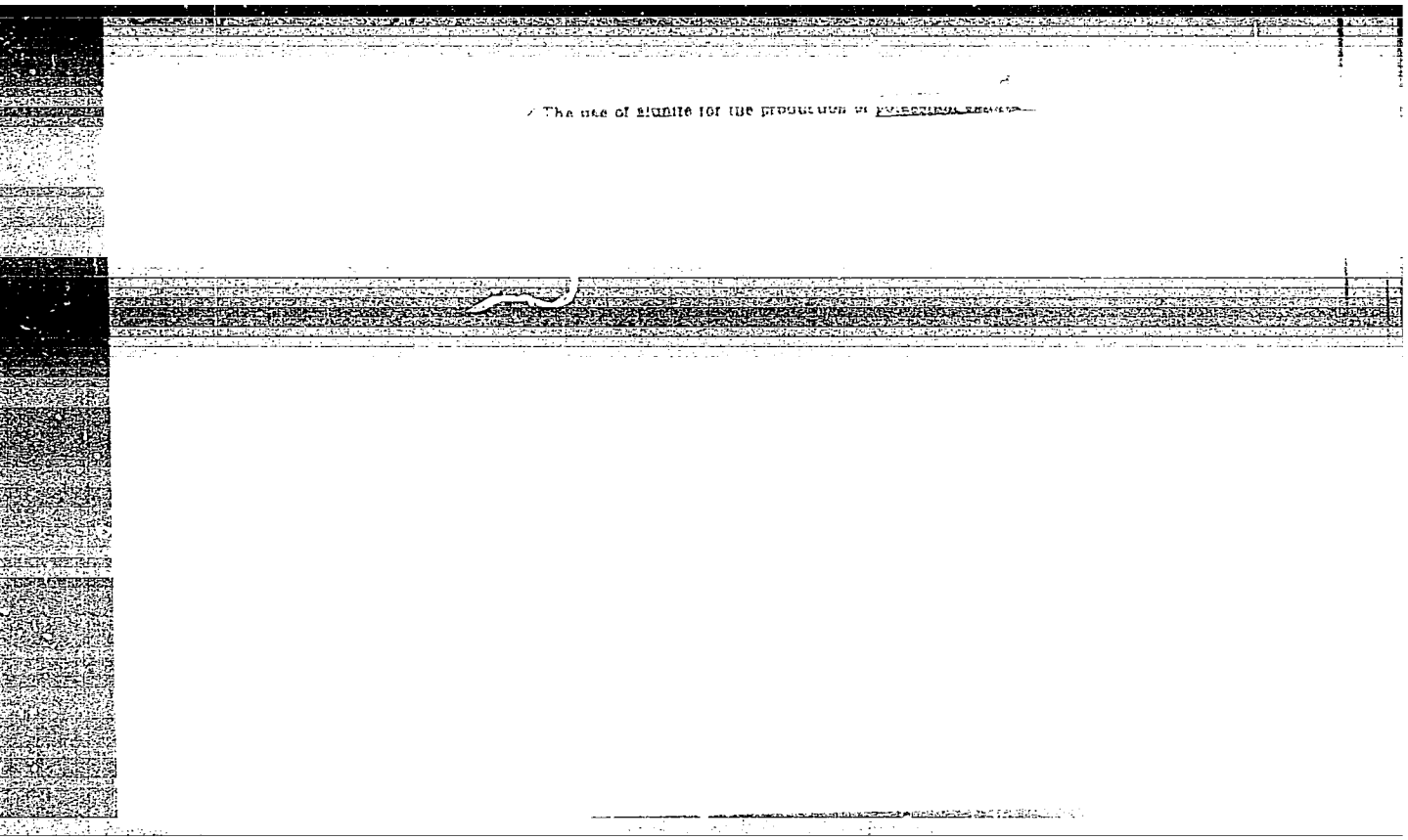
1. Nachal'nik laboratorii Odesskoy dzhutovoy fabriki (for Kurnosova).
2. Laboratoriya Odesskoy dzhutovoy fabriki (for Barabanova).



USSR/Chemical Technology -- Chemical Products and Their Application. Fertilizers, I-6

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1449

Abstract: furnace, both in the presence and in the absence of a stream of superheated steam. The optimum conversion conditions, at which no volatilization of the KCl and $Al_2(SO_4)_3$ occurs, were found to be 700° and the reaction time of 45-60 minutes; the passage of steam was a necessary condition. The conversion attained 94-95.4%.



SHOR, O.I.; SHARGORODSKIY, S.D.; BARABANOVA, A.S.

Effect of oxygen on the reaction of alkali metal chlorides with magnesium sulfate on heating. Ukr. khim. zhur. 24 no.4:521-525 '58. (MIRA 11:10)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
(Alkali metal chlorides) (Magnesium sulfate) (Oxygen)

VOYTOVICH, B.A.; BARABANOVA, A.S.

Effect of solvents on the stability of molecular compounds of phosphoryl chloride with aluminum, iron, niobium, tentalum, and antimony chlorides. Zhur.neorg.khim. 6 no.9:2098-2102 S '61. (MIRA 14:9)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
(Phosphoryl chloride) (Chlorides)

S/078/61/006/011/009/013
B101/B147

AUTHORS: Voytovich, B. A., Barabanova, A. S., Tumanova, N. Kh.

TITLE: Interaction of sulfur monochloride with titanium tetrachloride

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 11, 1961, 2545-2549

TEXT: $TiCl_4$ obtained by reduced chlorination of slags containing titanium includes S_2Cl_2 and other impurities. To develop a physicochemical method of purifying $TiCl_4$, the following systems were studied: $TiCl_4 - S_2Cl_2$ (I); $CCl_4 - S_2Cl_2$ (II); $SiCl_4 - S_2Cl_2$ (III); $POCl_3 - S_2Cl_2$ (IV); $VOCl_3 - S_2Cl_2$ (V); $NbCl_5 - S_2Cl_2$ (VI); $TaCl_5 - S_2Cl_2$ (VII), and $AlCl_3 - S_2Cl_2$ (VIII). (I) was found to form a eutectic containing 20 mole% of $TiCl_4$, melting point: -88°C. Log N = f(1/T) is a linear function (N = molar part of $TiCl_4$; T = temperature of the liquidus). Hence, the

Interaction of sulfur monochloride...

heat of fusion of $TiCl_4$ is 2.05 kcal/mole. (II) represents a transition from the system of solid solutions to the eutectic system. Polymorphous conversion of CCl_4 occurs at -47°C. (III) forms a continuous series of solid solutions. (IV) forms a eutectic with 7.0 mole% of $POCl_3$, melting point: -81°C; $\log N = f(1/T)$ is a linear function yielding a heat of fusion for $POCl_3$ of 3.27 kcal/mole. (V) forms a continuous series of solid solutions. (VI) and (VII) are simple eutectic systems containing <0.1 % of $NbCl_5$ or $TaCl_5$. They melt at the same temperature as S_2Cl_2. The solubilities of the two chlorides in S_2Cl_2 which are approximately equal, increase fast as the temperature is elevated: 0.5-0.6 % at room temperature, 6-8 % at 100°C. Heat of fusion of $NbCl_5$: 8.15 kcal/mole, of $TaCl_5$: 8.4 kcal/mole. The phase diagram of system (VIII) is given in Fig. 5. $AlCl_3 \cdot 2S_2Cl_2$ with a melting point of 71°C is formed. At $AlCl_3$ concentrations of 5-30 %, the melt separates into two layers since the

above compound is poorly soluble in S_2Cl_2. B. F. Markov is thanked for his interest. There are 6 figures, 2 tables, and 8 references: 6 Soviet and 2 non-Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR
(Institute of General and Inorganic Chemistry AS UkrSSR)

SUBMITTED: June 24, 1960

Fig. 5. Phase diagram of the system $AlCl_3 - S_2Cl_2$.

Legend: (a) mole%.

S/073/61/027/002/002/004
B101/B208

AUTHORS: Markov, B. F., Voytovich, B. A., Barabanova, A. S.

TITLE: Molecular state of compounds accompanying titanium tetrachloride

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 27, no. 2, 1961, 151-154

TEXT: During the preparation of $TiCl_4$ by chlorination of titanium-containing slag also chlorides of Mg, Fe, Si, V, Al etc. are formed. To purify $TiCl_4$ completely from these impurities, the molecular state of the latter and their behavior with respect to $TiCl_4$ has to be studied. A kryoscopic study has now been made of the isomolar series of VCl_4, $VOCl_3$, and $TiCl_4$ on the one hand, and of $AlCl_3$, $FeCl_3$, and $ZrCl_4$ on the other. The chlorides of Al, Fe, Zr being only little soluble in $TiCl_4$, nitrobenzene was used as solvent. It is pointed out that the results may be influenced by interaction of $C_6H_5NO_2$ with the chlorides. The initial substances were prepared as follows: 1) $FeCl_3$ by chlorination of Armco iron at 350°C, sublimation of $FeCl_3$ in an argon atmosphere; 2) VCl_4 by chlorination of V metal and distillation, first

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in the chlorine stream, then in vacuo; 3) $VOCl_3$ by chlorination of V_2O_5 in the presence of carbon, and fractional distillation of the product; 4) $ZrCl_4$ by chlorination of ZrO_2 and sublimation in the hydrogen stream at 340-350° C; 5) chemically pure $AlCl_3$ was sublimed in the presence of Al metal; 6) pure $TiCl_4$ was distilled on copper filings; 7) nitrobenzene was distilled on P_2O_5. The deviation of the freezing-point depression from the additive value was determined for the following systems: $VOCl_3$ - $AlCl_3$; $VOCl_3$ - $FeCl_3$; $VOCl_3$ - $ZrCl_4$; VCl_4 - $AlCl_3$; VCl_4 - $FeCl_3$; VCl_4 - $ZrCl_4$; $TiCl_4$ - $AlCl_3$; $TiCl_4$ - $FeCl_3$; and $TiCl_4$ - $ZrCl_4$. The molecular state of the chlorides in nitrobenzene had previously been studied by determining the molecular weight. It is known from publications that the molecular weights of $TiCl_4$ and $ZrCl_4$ in nitrobenzene agree with the theoretical values. The same was found for $VOCl_3$. In the case of VCl_4, partial dissociation occurs when changing the concentration from 0.348-0.0347 mole/kg, the molecular weight varies continuously from 188.2 to 177.2 (theoretical value 192.78).

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Table 1 presents data for $AlCl_3$ and $FeCl_3$. In order to determine the electrolytic dissociation of the chlorides in nitrobenzene, the electrical conductivity of their solutions was measured at 25°C (Table 2). $TiCl_4$ in nitrobenzene has a conductivity of the order of 10^{-5} $ohm^{-1} \cdot cm^{-1}$, according to publications. In all systems studied here, the kryoscopic investigation of the isomolar series (concentration: 0.05-0.07 mole/kg) showed no deviations of the freezing-point from the additive value, which were beyond the error in measurement. It may be concluded therefrom that in nitrobenzene, the chlorides of vanadium form no compounds with those of Al, Fe, and Zr. There are 3 tables and 16 references: 9 Soviet-bloc and 7 non-Soviet-bloc. The 2 most recent references to English-language publications read as follows: H. Nishida, K. Oyama, J. Chem. Soc. Japan, Ind. Chem. Soc., 60, 1434, (1957); V. V. Dadape, M. R. A. Rao, J. Amer. Chem. Soc., 77, 6192 (1955).

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR (Institute of General and Inorganic Chemistry, AS UkrSSR)

SUBMITTED: July 2, 1959

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S/073/61/027/002/002/004
B101/B208

Molecular state ...

Table 1. Molecular weights of $AlCl_3$ and $FeCl_3$ in nitrobenzene.

Legend: 1) concentration, mole/kg;
2) Δt, determined experimentally;
3) degree of association $i = M_{exp}/M_{theor}$.

(1) Концентрация, моль/кг	(2) Δt экспериментальное	(3) Степень ассоциации $i = \frac{M \text{ экспериментальный}}{M \text{ теоретический}}$
$AlCl_3$		
0,237	1,580	1,037
0,172	1,125	1,057
0,148	0,930	1,099
0,0921	0,560	1,134
0,0803	0,475	1,167
0,0657	0,372	1,219
0,0531	0,305	1,200
0,0521	0,296	1,215
0,0237	0,130	1,259
$FeCl_3$		
0,261	1,755	1,027
0,156	1,014	1,062
0,097	0,607	1,102
0,0831	0,512	1,120
0,0733	0,442	1,145
0,0601	0,357	1,162
0,0404	0,206	1,351
0,0388	0,195	1,375
0,0233	0,090	1,785
0,0209	0,075	1,923

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B101/B208

Table 2. Specific electrical conductivity of solutions of V, Al, Fe, and Zr chlorides in nitrobenzene at 25°C.
Legend: 1) concentration, wt%;
2) K·10^5, ohm^{-1}·cm^{-1}.

(1) Концентрация, вес. %	(2) ×·10^5, ом$^{-1}$·см$^{-1}$
$VOCl_3$	
0,52	6,63
1,09	4,65
4,92	3,44
11,04	1,38
12,10	1,18
VCl_4	
0,94	0,142
1,96	0,211
4,80	0,321
9,33	0,492
$AlCl_3$	
0,69	19,8
0,86	22,7
3,07	57,1
$FeCl_3$	
0,28	9,71
1,04	20,9
2,14	30,3
5,21	64,2

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S/073/61/027/005/001/004
B103/B101

AUTHORS: Markov, B. F., Voytovich, B. A., Barabanova, A. S.

TITLE: Interaction of compounds accompanying titanium tetrachloride. II. Vanadium compounds

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, v. 27, no. 5, 1961, 580-584

TEXT: The authors continued their studies on the physicochemical conditions of purifying $TiCl_4$ (Ukr. khim. zh., 27, 151 (1961)). Chlorination of titanium-containing slags yields, in addition to $TiCl_4$, vanadium chlorides (mainly oxychloride) which are completely soluble in $TiCl_4$. In order to explain the interaction of $VOCl_3$ with chlorides of various metals, as well as with $POCl_3$ and CrO_2Cl_2, the following binary systems were subjected to thermal analysis: $VOCl_3$ - $AlCl_3$; $VOCl_3$ - $SiCl_4$ ($POCl_3$, CrO_2Cl_2); $VOCl_3$ - $NbCl_5$ ($TaCl_5$). Sealed Stepanov ampuls were used for this purpose [Abstracter's note: Ampul not defined], since the substances used

Interaction of compounds...

readily hydrolyze. Melting points were measured on a Chromel-Alumel thermocouple by taking heating curves on a selfrecording Kurnakov pyrometer. It was found that $VOCl_3$ forms the compound with $POCl_3$: $VOCl_3 \cdot 2POCl_3$; and VCl_4 forms the compound: $VCl_4 \cdot 2POCl_3$. VCl_4 forms a continuous series of solid solutions with $SiCl_4$. The phase diagrams of the systems of $VOCl_3$ with $AlCl_3$, $NbCl_5$, and $TaCl_5$ are eutectic. This also holds for the systems VCl_4 - $POCl_3$ ($SiCl_4$). The systems $VOCl_3$ - $SiCl_4$ and $VOCl_3$ - CrO_2Cl_2 proved to be transition systems between continuous solid solutions and the eutectic. Calculation by Schroeder's equation confirmed that aluminum chloride in the $VOCl_3$ - $AlCl_3$ melt has the form of Al_2Cl_6. There are 5 figures, 3 tables, and 7 references: 4 Soviet and 3 non-Soviet. The three references to English-language publications read as follows: J. C. Scheldon, S. Y. Teree, J. Amer. Chem. Soc., 81, 2290 (1959); R. L. Harris, R. E. Wood, H. L. Ritter, J. Amer. Chem. Soc., 73, 3151 (1951); H. Nishida, K. Oyama, J. Chem. Soc., Japan Ind. Chem.

Interaction of compounds...

Soc., 60, 1434 (1957).

ASSOCIATION: Institut obshchey i neorganicheskoy khimii AN USSR
(Institute of General and Inorganic Chemistry AS UkrSSR)

SUBMITTED: July 16, 1960

Card 3/3

VOYTOVICH, B.A.; BARABANOVA, A.S.; TUMANOVA, N.Kh.

Reaction of sulfur monochloride with titanium tetrachloride. Zhur. neorg.khim. 6 no.11:2545-2549 '61. (MIRA 14:10)

1. Institut obshchey i neorganicheskoy khimii AN USSR.
(Sulfur chloride) (Titanium chloride)

MARKOV, B.F.; BARABANOVA, A.S.; VOYTOVICH, B.A.

Thermal analysis of the systems $TiCl_4$ - $NbCl_5$ - $POCl_3$ and $TiCl_4$ - $TaCl_5$ - $POCl_3$. Ukr. khim. zhur. 29 no.10:1035-1042 '63. (MIRA 17:1)

1. Institut obshchey i neorganicheskoy khimii AN UkrSSR.